

Environmental and Social Review Summary

Serra Paracatu Transmissora de Energia (SPTE) Ltd. 500 kV Transmission Line

This Environmental and Social Review Summary (ESRS) is prepared by MIGA staff and disclosed in advance of the MIGA Board consideration of the proposed issuance of a Contract of Guarantee. Its purpose is to enhance the transparency of MIGA's activities. This document should not be construed as presuming the outcome of the decision by the MIGA Board of Directors. Board dates are estimates only.

Any documentation which is attached to this ESRS has been prepared by the project sponsor, and authorization has been given for public release. MIGA has reviewed the attached documentation as provided by the applicant, and considers it of adequate quality to be released to the public, but does not endorse the content.

Country:	Brazil
Sector:	Infrastructure
Project Enterprise:	Serra Paracatu Transmissora de Energia Ltd.
Environmental Category:	B
Date ESRS Disclosed:	October 6, 2009
Status:	Due Diligence

A. Project Description

The project consists of construction and operation of a total of 246 km of 500-kV transmission line and two new substations. The project is designed to strengthen the national intertie system, improving the linkage between the Southeast and the Central West grids. The new transmission line connects substations Paracatu-4 and Pirapora-2. The first segment of the line starts in the south-east at Paracatu-4 and connects to Pirapora 2 crossing the municipalities of Paracatu, João Pinheiro, Brasilândia de Minas, Buritizeiros and Pirapora in the state of Minas Gerais. The new substations are in Paracatu and at Pirapora. The substation area are flat with some gently rolling terrain. Alternative routings were examined for the right-of-way (ROW) to avoid/minimize impact on human settlements, forest areas, floodplain areas and wildlife habitats. All construction activities are now complete and the project is in operation. The Licença de Operação (LO) was issued by COPAM on April 17, 2009 and this license obliges the operator to comply with the conditions set out in the Licença Prévia (LP) and the Licença de Instalação (LI).

B. Environmental and Social Categorization

The project is a Category B under MIGA's environmental and social review procedures because the impacts are site-specific, limited in number, and mitigation measures are

readily identifiable. The key environmental and social issues are: construction-related impacts; occupational health and safety; and modification on natural habitat; land acquisition and loss of agricultural production.

C. Applicable Standards

Based on current information the following Performance Standards are expected to be applicable:

- PS1: Social and Environmental Assessment and Management System
- PS2: Labor and Working Conditions
- PS3: Pollution Prevention and Abatement
- PS4: Community Health, Safety and Security
- PS5: Land Acquisition and Involuntary Resettlement
- PS6: Biodiversity Conservation and Sustainable Natural Resource Management
- PS8: Cultural Heritage.

PS7 (Indigenous Peoples) is not applicable because there are no indigenous peoples affected by the project. The nearest designated indigenous peoples' lands are more than 10 km from the right-of-way where accessibility is difficult. Project construction and operations are not expected to have adverse impacts on indigenous peoples or their lands.

D. Key Documents and Scope of MIGA Review

For this investment, the following documents were reviewed by MIGA:

- Estudo de Impacto Ambiental (EIA), prepared by Rio das Velhas Consultoria Ambiental (June 2007).
- Relatório de Impacto Ambiental (RIMA), prepared by Rio das Velhas Consultoria Ambiental (June 2007)
- Land Acquisition Tables
- Licença Prévia (LP), issued by COPAM (March 7, 2008)
- Licença de Instalação (LI), issued by COPAM (May 16 2008)
- Licença de Operação (LO), issued by COPAM, April 17 2009)

MIGA's due diligence also involves discussions and e-mail exchanges with the insurance broker on land acquisition including tables detailing land acquisition provided to MIGA in June 2009.

E. Key Issues and Mitigation

PS 1 Social and Environmental Assessment and Management Systems

According to Brazilian law, an EIA and a RIMA must be prepared for any transmission line with capacity greater than 230 kV. The EIA is a detailed environmental assessment that is submitted to public authorities for review and approval, whereas the RIMA is a summary version of the EIA that is written in simpler language and expressly intended for public information, review, and comment. The EIA and RIMA have adequately identified likely impacts and risks in the project's area of influence. As currently proposed and designed, the project does not involve either associated facilities or third party obligations for significant project components or for environmental aspects of the project. All licenses specify environmental and social actions that must be implemented as conditions of the license. Conditions are drawn from recommendations identified in the EIA and RIMA, issues and concerns identified by public comment on the RIMA, and requirements identified by local, state, or national authorities.

The Environmental and Social Action Plan for this project as presented in the EIA and RIMA includes several programs, all of which are required to be developed and implemented by the enabling legislation for the privatization and awarding of concessions. All programs are commensurate with risks associated with construction and operation of the project. The programs are divided/presented in three phases: Preconstruction, construction, and operational phases:

- Pre-construction phase - EMP consists of three programs: ROW establishment program; program for compensation (for land/houses and livelihood impacts); social communications program;
- Construction phase consists of seven programs, including emergency plan, construction supervision; workers' health and safety; environmental compensation; monitoring. The LO specifies the form of environmental compensation to be paid as required by law. This condition and the two management programs for operations (Program of Environmental Management of Operations; Program of Worker Health & Occupational Safety in Operations) form the key environmental management activities during operations.
- Operational phase consists of the continuation of three of the above programs: Program of Environmental Compensation Program, Program of Monitoring Fauna; and Emergency Response Plan.

Corporate Capacity and Commitment. The investors have already built and operated similar high-tension transmission lines under concession in Brazil. MIGA has insured several of these investments, and has monitored implementation of them during construction and operations.

PS 2 Labor and Working Conditions

The labor law of Brazil incorporates the core principles of ILO. The investor, Cobra

Instalaciones y Servicios - SMTE (the project enterprise) has constructed and is operating several transmission lines in Brazil and complies with the national labor law. The project enterprise is committed to applying the requirements of PS2 and the national law on working conditions, working relations, grievance mechanisms and health and safety procedures. The project enterprise also ensures that relevant requirements of PS2 were applied to all contracted workers. Around 35 employees are required for the operation and maintenance of the transmission line, and around 50 direct and 800 indirect employees were hired during the construction phase.

The investor also commits to the following principles:

- a) Safety programs and requirements - all employees are provided with personal protection equipment and attend monthly safety courses. These training courses aim to train all employees in the use of all tools, machinery and pieces of equipment used for the construction of transmission lines and substations. Furthermore, compliance with the investor's own safety regulations and Brazilian norms are supervised and enforced by the investor's safety inspectors who are permanently deployed on site. The number of inspectors for a given number of employees is regulated by Brazilian regulations.
- b) Health programs and medical facilities - the investor permanently deploys qualified doctors to the site. Fully equipped ambulances, medical equipment and first aid kits are available. Doctors undertake annual check-ups of all employees, supervise sanitary conditions of camps and installations and organize preventive health programs.

The Ministry of Labor, through the Secretariat of Labor Inspection and the departments of Labor Control and of Worker Health and Safety, is charged with guiding, controlling and supervising the activities connected with labor and occupational health and safety. The project is also controlled by the individual states and the regional labor authorities ("Delegacias").

PS 3 Pollution Prevention and Abatement

The primary pollution issues associated with the project are: potential erosion from localized areas of exposed soils that result from installation of towers and substations, and management of construction wastes. The standard practice of the investor is not to use herbicides in ROW clearing or maintenance. The Environmental and Social Action Plan includes a requirement to implement best practice for erosion control and to monitor construction areas regularly until the soils have been revegetated and stabilized. The majority of wastes generated by the project were construction-related wastes. The investor confirmed that the following principles were followed for the construction of this project: Wastes were managed and disposed of in a manner consistent with recognized best practices. Recycling of materials was implemented to the extent practical. The investor's record for similar projects in Brazil has demonstrated responsible management for pollution prevention and abatement.

PS 4 Community Health, Safety & Security

The potential impacts identified for public health included: (i) risk of increased traffic and industrial accidents; (ii) electromagnetic fields; (iii) increase in demand for health infrastructure during construction; and (iv) increased risk of communicable diseases during construction.

The standard practice for the project was to supervise and control the movements of heavy construction vehicles and trucks to mitigate traffic accidents. The risk of industrial accidents during both construction and operation of the transmission line were mitigated by programs on environmental training for contractor personnel and on worker safety and occupational health during construction and operation phases.

As regard to effects induced by electromagnetic fields, the studies made to date have not discovered any conclusive evidence linking such fields to health problems. The internationally accepted measures based on the “prudential avoidance” concept include observance of a safe distance from populated areas together with control of exposure levels. These are ensured by establishment of the right-of-way width of 70m.

With regard to risks associated with the influx of workers including increased demand for local infrastructure facilities, especially for health and housing, the investor employs a standard approach. The investor undertakes full responsibility by providing accommodation to all employees. For those sections of the transmission Line within a range of 50 km from urban centers, the investor rents existing housing facilities and provides transport from and to the work site. For those sections of the transmission line located in remote areas, the investor sets up camp infrastructure in strict compliance with the Brazilian laws, particularly with regard to sanitation. This also includes the investor’s responsibility provide catering and food supplies to all employees. Fifty percent of the Pirapora-Paracatú transmission line route is within reasonable vicinity of urban centers, therefore two camps along the more distant sections of the Line route were established. Please also see section on Labor and Working Conditions. Regarding the risk of communicable diseases during the construction phase, preventative health programs were included in workers’ health and safety programs.

The SPTE substation area is fenced off, well illuminated with restricted access and guarded. Security personnel at project facilities including substations do not use firearms.

PS 5 Land Acquisition & Involuntary Resettlement

The EIA indicates that the project does not lead to physical resettlement, and no community would be directly crossed by this transmission line. The investor confirmed that 184 properties were affected by the transmission line, no resettlement was required. Acquisition and compensation of 182 privately owned properties have been completed. The remaining two properties are pending final completion.

Previous experience of MIGA with acquisition of right-of-way for utilities projects in Brazil, including other transmission lines built and operated by the investor, has found that the requirements and the procedures in Brazil are consistent with PS5. Community engagement with respect to designation of the right-of-way is discussed above in the context of PS1. Generally between 8% and 10% of all compensation cases are presented in court.

Brazilian law for acquisition, compensation, and expropriation (if necessary) of ROW for utilities identifies a clear process that is required. According to the law, once the project is given permission to conduct topographic surveys for the right-of-way, permission from each landholder must be obtained to enter the property to do the survey. Once on the property, the surveyor prepares a document for that property (and each claimant, if there is more than one on a property) regarding all the impact on crops, trees that need to be cut or trimmed, and improvements (houses, corrals, outbuildings, water tanks, etc.) that might need to be relocated. This also is the opportunity for surveyors, landowners, and occupants to discuss possible relocation of towers, to the extent practical, in a manner that minimizes adverse impacts. This survey is a critical step in the community engagement process. The Environmental and Social Action Plan for all investments includes a Social Communication Program that must be implemented during the pre-construction phase and throughout the construction period, and provides landowners and local residents the opportunity to report environmental concerns or safety issues that might arise throughout the construction period.

PS 6 Biodiversity Conservation & Sustainable Natural Resource Management

The project crosses a landscape that is dominated by agricultural activities with the central part of the line segment in the Minas Brasilândia region supporting charcoal kilns/enterprises. In general the area still maintains reasonable vegetation cover including semi-deciduous forest, fields, savanna, riparian forest and wildlife habitat. Along the 246 km stretch, there is approximately 631 ha of native vegetation, of which 360 ha is Cerrado habitat. There is approximately 68 ha of riparian forest, 30 ha of highly disturbed Cerrado grasslands, 29 ha of semi-deciduous forest, 129 ha of fallow fields and 16 ha of wetlands and flood plains. Much of area to be impacted by the project has already been degraded. However, the route of the right-of-way was selected, among many factors, to avoid crossing forest fragments greater than 500 m in width, which is the distance between adjacent towers. Where required, tower heights are adjusted to minimize the need for trimming of natural vegetation along the right-of-way. The investors have successfully implemented in other projects a construction and cable installation technique that requires only removal of a 5-m wide band of natural vegetation in those areas where the right-of-way may cross remnant patches of trees or shrubs. Care is taken to trim a little above ground level, to allow rapid regeneration of growth from roots and stumps. Thereafter, trimming is carried out by manual means only as needed for security of the transmission line.

PS 8 Cultural Heritage

The project crosses landscape that is known to have resources of paleontological, archaeological, or historical interest. The project's Environmental and Social Action Plan includes a Program for Inspection, Archaeological Rescue, and Preservation of Archaeological, Historical, and Cultural Heritage. Standard practice for the project is to have a recognized expert to conduct a site survey of each proposed tower location prior to initiation of construction to determine whether cultural resources are potentially present. Construction crews were trained as part of the Environmental and Social Action Plan to recognize the presence of cultural resources, stop work, and request expert assistance, as per requirements of PS8 when there is a risk of chance finds.

F. Environmental Permitting Process and Community Engagement

According to Brazilian law, an EIA and RIMA must be prepared for any transmission line with capacity 230 kV or greater. The Licença Prévia (LP) is a permit to carry out the necessary detailed planning and environmental studies; the Licença de Instalação (LI) is needed to construct the TL; and the Licença de Operação (LO) is needed to operate. Notices of intent to issue all three licenses are published in advance in local and regional newspapers, and in official publications. Public hearings on the issuance of an LP can be requested by interested parties within 45 days of notice of intent to issue an LP. For new power lines and substations, the LP must be requested at the initial stage of planning, before the final path of the ROW (or location of the substation) is decided. The law also requires notice of issuance of the LI to be published for a 30-day period, before it takes effect. For this project the State Environmental Authority for Minas Gerais issued the Licença Prévia (LP) on March 7, 2008, the Licença de Instalação (LI) on May 16, 2008 and the Licença de Operação (LO) on 17 April 2009.

Environmental studies are approved by national and local institutions in Brazil. Each of the following institutions use the information provided:

- FUNAI (National Indian Foundation)
- IPHAN (National Institute for the Historic and Arctic Protection)
- Fundação Cultural Palmares (Cultural Foundation Palmares)
- ICMBIO (Institute for the Preservation of Biodiversity "Chico Mendes")
- SVC (Secretary for the Sanitary Surveillance) if the project touches the "Amazonas"
- Townhalls of each of the municipalities crossed by the transmission lines.

G. Availability of Documentation

The RIMA for this project has been disclosed locally in accordance with Brazilian requirements. MIGA has also disclosed the RIMA on its website along with this Environmental and Social Review Summary.